

IN THE CLAIMS:

Please amend claim 5 and claim 8 as shown below.

(Claim 5, amended, marked up copy)

5. A scintillation detector, comprising:

(a) [the crystal scintillator of claim 1, and] a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula
 $Lu_{(2-x-z)}Y_xCe_zSiO_5$, wherein $0.05 \leq x \leq 1.95$ and $0.001 \leq z \leq 0.02$;
and

(b) a photodetector optically coupled to said crystal scintillator for
detecting light from said crystal scintillator.

(Claim 5, amended, clean copy)

5. A scintillation detector, comprising:

(a) a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula $Lu_{(2-x-z)}Y_xCe_zSiO_5$, wherein $0.05 \leq x \leq 1.95$ and $0.001 \leq z \leq 0.02$; and

(b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.

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(Claim 8, amended, marked up copy)

8. A scintillation detector, comprising:
 - (a) [the crystal scintillator of claim 2, and] a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula $Lu_{(2-x-z)}Y_xCe_zSiO_5$, wherein $0.2 \leq x \leq 1.8$ and $0.001 \leq z \leq 0.02$; and
 - (b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.

(Claim 8, amended, clean copy)

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8. A scintillation detector, comprising:
 - (a) a crystal scintillator comprising a transparent single crystal of cerium-activated lutetium yttrium oxyorthosilicate having the general formula $Lu_{(2-x-z)}Y_xCe_zSiO_5$, wherein $0.2 \leq x \leq 1.8$ and $0.001 \leq z \leq 0.02$; and
 - (b) a photodetector optically coupled to said crystal scintillator for detecting light from said crystal scintillator.